



Dr. Martin Caprio

Senior Scientist – Drug
Discovery & Innovation

Alternative Composition for
Lithium-ion Battery Formula

March 15, 2024

Bypass Strategy for
Biodegradable Plastic

February 28, 2024

AI-Based Workaround for
Oncology Drug Patent

January 12, 2024

New Synthesis Method for
Quantum Computing Drug

December 5, 2023

Reformulated Vaccine
Composition – Patent-Free

November 20, 2023

Climate-Aware Formulation
for Agricultural Chemicals

October 10, 2023

Alternative Semiconductor
Coating Mixture Proposal

September 18, 2023

Silicon-Free Semiconductor
Binder Composition

September 18, 2023

Report

Non-Infringing Rivastigmine Formulation

EXECUTIVE SUMMARY

The AI has successfully bypassed the patented formulation of Rivastigmine (US9827310B2) by proposing a non-infringing sublingual tablet formulation using an alternative compound with similar efficacy and reduced half-life extension.

1: PATENT ANALYSIS

The AI has successfully bypassed the patented formulation of Rivastigmine (US9827310B2) by proposing a non-infringing sublingual tablet formulation using an alternative compound with similar efficacy and reduced half-life extension.

Detail	Info
Patent Scanned	US9827310B2
Infringement Risk	HIGH for direct use of Rivastigmine in sustained-release capsules
Claims to Avoid	3, 6, 9, 11 – all related to polymer matrix and capsule coatings
Delivery Restriction	Oral sustained-release formats are protected

2: AI-SUGGESTED NON-INFRINGING ALTERNATIVE

Feature	AI Suggestion
Proposed Compound	Huperzine A (a natural acetylcholinesterase inhibitor)
Delivery Form	Sublingual tablet, fast-dissolving
Half-life	4-6 hours (shorter than Rivastigmine)
Justification	No overlap in formulation or mechanism of delivery. Natural origin excludes it from synthetic patent class. Available open-access in various regions.
Regulatory Precedent	GRAS status in China, clinical trial support in EU

3: FORMULATION DESIGN (Alternative Product)

Product Name (internal)	Neurotab-AZ
Dosage Form	250 mcg Huperzine A, sublingual tablet
Excipients	Mannitol, Crospovidone, Magnesium Stearate, Natural Citrus Flavor
Bioavailability	73% (simulated vs. 56% oral Rivastigmine)
Onset Time	~7 minutes
Recommended Usage	Twice daily
Cost per Unit (estimated)	₹2.90 INR

4: AI EFFICACY SIMULATION (vs. Rivastigmine)

Criteria	Rivastigmine	Proposed Formulation
Acetylcholinesterase Inhibition	86%	79%
Cognitive Score Improvement (Simulated MMSE)	+2.7	+2.4
Half-life	10 hrs (SR)	4 hrs
Patient Compliance	71%	82% (due to faster action & taste masking)

5: LEGAL & RISK ANALYSIS

✔ No shared compound claims
✔ No infringement of coating/process/polymers
✔ Legal clearance across India, South Africa, Brazil
❗ Pending review in EU due to herbal classification

FULL TECHNICAL REPORT (PDF)

LEGAL COMPARISON CHART

CHEMICAL STRUCTURES (.MOL)

EFFICACY SIMULATION GRAPHS (EXCEL)

DRAFT DOSSIER FOR REGULATORY SUBMISSION



Upload Documents



ANALYZE WITH AI